

Is the Short Takeoff and Vertical Landing Aircraft the Sole Tactical Air Solution for the Marine Corps?

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Since the beginning of Marine Corps aviation, the Marines have had several fixed wing platforms to support the Marine Air Ground Task Force (MAGTF). With the present combination of the F/A-18 Hornet, AV-8B Harrier and EA-6B Prowler aircraft, the MAGTF air command element is capable of accomplishing a multitude of missions under almost any condition. However, the traditional way in which Marine tactical air carries out its role is about to change with the plan to phase out the three existing jet aircraft and replace them with one aircraft, the Short Takeoff and Vertical Landing (STOVL) Joint Strike Fighter (JSF). Unfortunately, the JSF's debatable record of reliability, compounded by the prospect of dependence on one aircraft, may compromise the Marine Corps' ability to meet its commitment to the country and to the other branches of the military.

DEFICIENCIES

The JSF is due to become operational in the Fleet Marine Force around fiscal year 2008(The Future of Expeditionary Air Power, Short Takeoff/ Vertical Landing 27). The Marine Corps is projected to buy 609 STOVL variants of the JSF. The capabilities of this aircraft are vast, and it will be able to support the Marine Corps in nearly all of the functions of Marine aviation. However, it will be unable to complete some key missions that tactical air now provides to the MAGTF. These

include both forward air control airborne (FAC(A)) and tactical air control airborne (TAC(A)) missions. Such missions are essential to the employment of combined arms on the battlefield and allow a Marine commander the ability to fight the deep, close and rear battle effectively. Because of the complexity of the mission, the two-seat F/A-18D Hornet is presently the only Marine tactical jet that brings the FAC(A), TAC(A) capabilities to the MAGTF commander. To properly execute these missions it takes a crew of two to coordinate the synchronization of combined arms. In contrast, the JSF will be flown by a single crewman/pilot who will rely on new technology to provide increased situational awareness. Even with the increased situational awareness that the JSF will provide its pilot, it he will not be able to bring together call for fires and direct close air support aircraft effectively, the way a two-man crew can. The two-man crew does the job of the artillery forward observer, 81mm forward observer, and the FAC all at 500 mph.

Unfortunately, the current program of the JSF does not include any plans for a two-seat version of the aircraft. The solution would be to integrate the two-seat version of the Super Hornet, the F/A-18F model, into the Marine Corps inventory with the JSF. These aircraft would be able to replace the aging fleet of F/A-18's and AV-8B's. The F/A-18F is presently under construction for the Navy and would provide a real time

aircraft, as opposed to waiting for the "possible" but unlikely two-seat version of the JSF. The F/A-18F would bring increased air-to-ground capabilities to the MAGTF commander compared to current versions of the F/A-18D. In addition, the F/A-18F provides an increased payload (eleven stores stations compared to nine for the F/A-18D), a forty-percent increase in range, and fifty percent increase in on-station time compared to the current Hornet (Coyle 2). These increases will make the F/A-18F a very capable air-to-ground platform that could support the MAGTF commander with numerous missions.

TACTICAL EXPOSURE/RISK

With the Marine Corps' purchase of strictly STOVL JSF, the Marines will be relying on one jet for all of its tactical aviation needs. Since the establishment of modern Marine aviation, the Marine Corps has never had only one jet to accomplish the needs of its tactical aviation missions. The Marine Corps has always had numerous jet platforms that could perform air-to-ground, air-to-air, and/or a combination of the two missions (as provided by the F/A-18). Multiple platforms would not only bring their own unique capabilities, but also continuity should any one platform prove temporarily unreliable. One aircraft has never been able to do it all nor has it guaranteed infallibility.

In addition to capabilities, reinforcement of assets is key to a successful operation. Innovative concepts often come into an inventory with unforeseen problems. Two examples of this would be the AV-8B Harrier and the MV-22 Osprey. Both aircraft are great concepts, and the MV-22 has great potential for the Marine Corps. However, the STOVL Harrier has had significant trouble throughout its operational life. The AV-8B has been redstriped forty times since 1984(AV-8B Program Redstripes 1-9), that is, due to some maintenance/mechanical problems a specific aircraft lot or fleet could not fly and were grounded until corrected. Every tactical aircraft has been redstriped at one point or another. The Harrier, unfortunately, has been plagued with numerous problems. It was so bad that Harriers were no longer able to deploy with the Amphibious Ready Group (ARG) nor able to support the Marine Expeditionary Unit (MEU). Fortunately, the Marine Corps was able to rely on its F/A-18 as backup. (The Hornets were put on deployment readiness from bases in the states in order to support the MEU commander if he needed fixed wing support).

The STOVL JSF is a leap in technology and is supposed to have fixed all of the problems of the Harrier. However, can the Marine Corps be so confident in its reliability that it does not need another tactical jet? The Marine Corps will be the only service with the STOVL variant of the JSF and the only service

with a single tactical jet. If the Marine Corps JSF has any unpredicted problems that slow the JSF's introduction to the fleet or hamper its reliability once in operational status, the Marine Corps could be out of a tactical air option and out of the fight. Having a second tactical air asset like the F/A-18F gives the Marine Corps the flexibility and redundancy it needs. Moreover, the F/A-18F would also fall nicely into the support of a Navy carrier air-wing.

CARRIER OBLIGATIONS

In a 1997 Memorandum of Agreement between the Commandant of the Marine Corps and the Chief of Naval Operations, the Marine Corps agreed to change operational control (CHOP), transferring four squadrons to the Navy's carrier air wing. The Commandant also agreed to support the Navy's carrier air wing with the understanding that Navy aircraft would principally support the Navy, and Marine aircraft would principally support the Marine Corps (MAGTF commander). The problem that the Marine Corps faces by just having the STOVL JSF is the ability to put these aircraft on a carrier alongside the Navy's carrier version of the JSF and its other carrier aircraft. As on the LHA/LHD's with helicopters and Harriers, there is a deck cycle conflict on the carriers between the STOVL JSF and carrier (CV) JSF's. The carrier would not be able to takeoff or land STOVL and CV aircraft at the same time.

Not only is there a problem with deck cycles, there is the problem of capabilities. The Navy's carrier version of the JSF will be able to carry more ordnance and will be able to fly farther and offer longer on-station times than the Marine version of the JSF. If these two aircraft were to operate from the same aircraft carrier, it would cause unnecessary operational confusion and complications. The Navy would be able to strike deeper and farther with its fighter, again possibly taking the carrier-based Marine VSTOL JSF out of the fight. If Marine squadrons, which were assigned to the Navy were flying the F/A-18F, this conflict would not exist. The F/A-18F can fly farther and has more endurance than the STOVL JSF. Its legs and endurance are very comparable with the Navy's carrier designed JSF. Also, since the Navy designed the F/A-18F model to be a carrier jet there will be no problem incorporating them into the carrier deck cycle. With Marine F/A-18F's attached to the Carrier Air Group (CAG) and Marine STOVL JSF's attached to the MEU, the Marine Corps would give up none of its capabilities and, in fact, would increase the chances that Marine air will be there to fight for the Marines on the ground.

However, the overriding obstacle to having two tactical aircraft in the inventory is the expense. One of the reasons that the Marine Corps opted to go to a single tactical jet air force was to reduce cost. At present, the cost of a single

STOVL JSF is approximately 47 million dollars. The present cost of the F/A-18F is 75 million dollars (Department of the Navy Center for Cost Analysis 14). This is quite a difference in cost. However, if the Marine Corps decided to buy F/A-18F's, the cost would decrease somewhat as well due to the increase in the overall numbers of Super Hornets bought by the Navy. (The more aircraft purchased, the cheaper the price becomes.)

PARTS COMPATIBILITY

The maintenance costs for the JSF are another reason that the Marine Corps decided to purchase the JSF. Similar parts amongst the Air Force, Navy and Marine Corps JSF's will decrease the overall cost of maintenance and repair parts. However, if STOVL JSF is put on carriers along with CV JSF, only about 58 percent of their parts are common parts, whereas a Navy F/A-18F and Marine F/A-18F have 100 percent of the same parts (STOVL VS F/A-18E/F 1). By continuing carrier-based obligations, the Marine Corps must have commonality with the Navy so that it will be able to cut down on spare parts space on the carrier and overall maintenance cost. The F/A-18F offers this to the Marine Corps.

The F/A-18F used with the STOVL JSF would provide the Marine Corps with a formidable air force, capable of providing all its tactical air needs. If the Marine Corps continued with at least two tactical jets in the inventory, there will be no

compromise of capabilities, and this would ensure a working fleet that is always reliable and lethal. Marines are successful because they always have a back up plan. The Marine Corps cannot afford to sit on the sidelines during any kind of contingency or major theater of war. As America's 911 force, it needs to be ready, reliable and able to complete the mission with the best assets available to the MAGTF commander. The F/A-18F will fill valuable mission gaps left by the STOVL JSF and allow Marine Air to be the most tactical and capable air force possible to support the "trigger pullers" on the ground.

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